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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,844	11/15/2000	Kazuhiro Shimawaki	4468-012	9271

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EXAMINER	
PERILLA, JASON M	

ART UNIT	PAPER NUMBER
2634	6

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/712,844	SHIMAWAKI, KAZUHIRO	
	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *2-5,7-10,12-15 and 17-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,11 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are pending in the instant application.

Election/Restrictions

2. Claims 2-5, 7-10, 12-15, and 17-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Drawings

3. The drawings are objected to because the figure numbers are not part of the drawings. The figure numbers can only be inferred by the drawing page number versus the total number of drawing pages shown at the bottom of the page. The examiner notes that the figure number should be clearly displayed as part of the figure itself. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 6, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikemura (5400369) in view of Rohr (5784420).

Regarding claim 1, Ikemura discloses a reception data synchronizing apparatus for a synchronization to be obtained (abstract) between reception data having a synchronism pattern (fig. 2, ref. A – "INPUT DATA") for a synchronism to be obtained and expectation data (col. 3, lines 6-9 – "A1") as an expected value of the reception data, comprising: a synchronism pattern detecting position recording means (fig. 2, ref. 105; col. 3, lines 26-31; col. 3, lines 40-44) for recording a synchronism timing at which the synchronism pattern of the reception data is detected, a collation and synchronism decision means (fig. 2, refs. 101, 102, 104, 103, 106, and 110; col. 3, lines 52-65) for collating (fig. 2, ref. 102) the reception data with reference data to decide whether or not the reception data is consistent in phase with the reference data, and a synchronism control means (fig. 2, ref. 111) operative, when the collation and synchronism decision means gives a decision for inconsistency in phase, for a match to a timing of a synchronism pattern of the expectation data (col. 4, lines 42-50). Ikemura does not disclose that the synchronism control means is operative such that, when the collation and synchronism decision means gives a decision for inconsistency in phase, *for a match between a timing at which the synchronism pattern is detected after the synchronism timing recorded in the synchronism pattern detecting position recording means* and a timing of a synchronism pattern of the expectation data. However, Rohr teaches a system for resynchronization (abstract) of a data reception device wherein due to a finding of an error in the synchronization, the resynchronization of the same frame is avoided (col. 3, line 60 – col. 4, line 9). Rohr discloses, "When the simulated frame alignment word is located shortly before the correct frame alignment word, then

there is a high probability that the asynchronous desynchronization command is given in the time span between the correct frame alignment word and the simulated frame alignment word. The simulated frame alignment word is then recognized next, and a correct resynchronization is thereby prevented." (col. 1, lines 62-67) Further, Rohr teaches that that the avoidance of unnecessary resynchronization is advantageous (col. 2, lines 65-67). The teachings of Rohr lead one skilled in the art to the obvious conclusion that upon the identification of an erroneous synchronization, the resynchronization should avoid the erroneous synchronization because it is not the correct one. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to resynchronize to a synchronism pattern detected after the synchronism timing recorded in the synchronism pattern detecting position recording means (embodied by Ikemura) as taught by Rohr in the apparatus of Ikemura because it would lead to faster and more accurate resynchronization.

Regarding claim 6, Ikemura discloses a reception data synchronizing method for a synchronization to be obtained (abstract) between reception data having a synchronism pattern (fig. 2, ref. A – "INPUT DATA") for a synchronism to be obtained and expectation data (col. 3, lines 6-9 – "A1") as an expected value of the reception data, comprising: a synchronism pattern detecting position recording means (fig. 2, ref. 105; col. 3, lines 26-31; col. 3, lines 40-44) for recording a synchronism timing at which the synchronism pattern of the reception data is detected, a collation and synchronism decision means (fig. 2, refs. 101, 102, 104, 103, 106, and 110; col. 3, lines 52-65) for collating (fig. 2, ref. 102) the reception data with reference data to decide whether or not

the reception data is consistent in phase with the reference data, and a synchronism control means (fig. 2, ref. 111) operative, when the collation and synchronism decision means gives a decision for inconsistency in phase, for a match to a timing of a synchronism pattern of the expectation data (col. 4, lines 42-50). Ikemura does not disclose that the synchronism control means is operative such that, when the collation and synchronism decision means gives a decision for inconsistency in phase, *for a match between a timing at which the synchronism pattern is detected after the synchronism timing recorded in the synchronism pattern detecting position recording means* and a timing of a synchronism pattern of the expectation data. However, Rohr teaches a method for resynchronization (abstract) of a data reception device wherein due to a finding of an error in the synchronization, the resynchronization of the same frame is avoided (col. 3, line 60 – col. 4, line 9). Rohr discloses, "When the simulated frame alignment word is located shortly before the correct frame alignment word, then there is a high probability that the asynchronous desynchronization command is given in the time span between the correct frame alignment word and the simulated frame alignment word. The simulated frame alignment word is then recognized next, and a correct resynchronization is thereby prevented." (col. 1, lines 62-67) Further, Rohr teaches that that the avoidance of unnecessary resynchronization is advantageous (col. 2, lines 65-67). The teachings of Rohr lead one skilled in the art to the obvious conclusion that upon the identification of an erroneous synchronization, the resynchronization should avoid the erroneous synchronization because it is not the correct one. Therefore, it would have been obvious to one having ordinary skill in the

art at the time which the invention was made to resynchronize to a synchronism pattern detected after the synchronism timing recorded in the synchronism pattern detecting position recording means (embodied by Ikemura) as taught by Rohr in the method of Ikemura because it would lead to faster and more accurate resynchronization.

Regarding claim 16, Ikemura discloses a reception data synchronizing apparatus for a synchronization to be obtained (abstract) between reception data having a synchronism pattern (fig. 2, ref. A – "INPUT DATA") for a synchronism to be obtained and expectation data (col. 3, lines 6-9 – "A1") as an expected value of the reception data, comprising: a synchronism pattern detecting position recording device (fig. 2, ref. 105; col. 3, lines 26-31; col. 3, lines 40-44) for recording a synchronism timing at which the synchronism pattern of the reception data is detected, a collation and synchronism decision device (fig. 2, refs. 101, 102, 104, 103, 106, and 110; col. 3, lines 52-65) for collating (fig. 2, ref. 102) the reception data with reference data to decide whether or not the reception data is consistent in phase with the reference data, and a synchronism control device (fig. 2, ref. 111) operative, when the collation and synchronism decision device gives a decision for inconsistency in phase, for a match to a timing of a synchronism pattern of the expectation data (col. 4, lines 42-50). Ikemura does not disclose that the synchronism control device is operative such that, when the collation and synchronism decision device gives a decision for inconsistency in phase, *for a match between a timing at which the synchronism pattern is detected after the synchronism timing recorded in the synchronism pattern detecting position recording device* and a timing of a synchronism pattern of the expectation data. However, Rohr

teaches a system for resynchronization (abstract) of a data reception device wherein due to a finding of an error in the synchronization, the resynchronization of the same frame is avoided (col. 3, line 60 – col. 4, line 9). Rohr discloses, "When the simulated frame alignment word is located shortly before the correct frame alignment word, then there is a high probability that the asynchronous desynchronization command is given in the time span between the correct frame alignment word and the simulated frame alignment word. The simulated frame alignment word is then recognized next, and a correct resynchronization is thereby prevented." (col. 1, lines 62-67) Further, Rohr teaches that that the avoidance of unnecessary resynchronization is advantageous (col. 2, lines 65-67). The teachings of Rohr lead one skilled in the art to the obvious conclusion that upon the identification of an erroneous synchronization, the resynchronization should avoid the erroneous synchronization because it is not the correct one. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to resynchronize to a synchronism pattern detected after the synchronism timing recorded in the synchronism pattern detecting position recording device (embodied by Ikemura) as taught by Rohr in the apparatus of Ikemura because it would lead to faster and more accurate resynchronization.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikemura in view of Rohr, and in further view of Dosiere et al (5778000).

Regarding claim 11, Ikemura discloses a reception data synchronizing apparatus for a synchronization to be obtained (abstract) between reception data having a synchronism pattern (fig. 2, ref. A – "INPUT DATA") for a synchronism to be obtained

and expectation data (col. 3, lines 6-9 – "A1") as an expected value of the reception data, comprising: a synchronism pattern detecting position recording step (fig. 2, ref. 105; col. 3, lines 26-31; col. 3, lines 40-44) for recording a synchronism timing at which the synchronism pattern of the reception data is detected, a collation and synchronism decision step (fig. 2, refs. 101, 102, 104, 103, 106, and 110; col. 3, lines 52-65) for collating (fig. 2, ref. 102) the reception data with reference data to decide whether or not the reception data is consistent in phase with the reference data, and a synchronism control step (fig. 2, ref. 111) operative, when the collation and synchronism decision step gives a decision for inconsistency in phase, for a match to a timing of a synchronism pattern of the expectation data (col. 4, lines 42-50). Ikemura does not disclose that the synchronism control step is operative such that, when the collation and synchronism decision step gives a decision for inconsistency in phase, *for a match between a timing at which the synchronism pattern is detected after the synchronism timing recorded in the synchronism pattern detecting position recording step* and a timing of a synchronism pattern of the expectation data. However, Rohr teaches a system for resynchronization (abstract) of a data reception device wherein due to a finding of an error in the synchronization, the resynchronization of the same frame is avoided (col. 3, line 60 – col. 4, line 9). Rohr discloses, "When the simulated frame alignment word is located shortly before the correct frame alignment word, then there is a high probability that the asynchronous desynchronization command is given in the time span between the correct frame alignment word and the simulated frame alignment word. The simulated frame alignment word is then recognized next, and a correct

resynchronization is thereby prevented." (col. 1, lines 62-67) Further, Rohr teaches that that the avoidance of unnecessary resynchronization is advantageous (col. 2, lines 65-67). The teachings of Rohr lead one skilled in the art to the obvious conclusion that upon the identification of an erroneous synchronization, the resynchronization should avoid the erroneous synchronization because it is not the correct one. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to resynchronize to a synchronism pattern detected after the synchronism timing recorded in the synchronism pattern detecting position recording step (embodied by Ikemura) as taught by Rohr in the apparatus of Ikemura because it would lead to faster and more accurate resynchronization.

Further regarding claim 11, Ikemura in view of Rohr do not disclose *a computer-readable medium embodying a program of instructions for execution by the computer* to perform a reception data synchronizing method. However, Dosiere et al teaches a frame synchronization method (abstract) which is described as being applicable to being executed via a computer readable or software medium (col. 1, lines 15-20; col. 10, lines 6-10). Further, although Dosiere explains that the use of software may lead to slower execution, it is also stated that one skilled in the art could accomplish a faster implementation of the invention via software (col. 2, lines 35-40). The use of integrated circuit chips such as digital signal processors and micro-controllers which execute computer readable medium embodying a program of instructions is well known in the art and accepted. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize a software implementation of the

frame synchronizer as taught by Dosiere et al for the frame synchronizer of Ikemura et al in view of Rohr because one skilled in the art would be able to accommodate the application of a frame synchronizer by software such that the performance would be faster than a hardware solution.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art not relied upon above is cited to further show the state of the art with respect to synchronizers.

U.S. Pat. No. 4620300 to Ogawa; Frame Synchronizer

U.S. Pat. No. 4744081 to Buckland; Frame Find Circuit.

U.S. Pat. No. 4747116 to Yajima et al; Sync Signal Detection.

U.S. Pat. No. 4748623 to Fujimoto; Frame Synchronizing Circuit.

U.S. Pat. No. 5132991 to McNesby et al; Frame Error Detection Circuit.

U.S. Pat. No. 5761242 to Thomas; Network Synchronization.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M Perilla
March 11, 2004

jmp

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